

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended)

A nozzle piece for a dental powder jet apparatus adapted for an exchangeable assembly on a hand piece and having a discharge nozzle for a fluid as well as a discharge nozzle for discharging a mixture of air and a dental powder suitable for cleaning teeth in the area of a gum pocket,

wherein a front partial length at the outlet cross section of the discharge nozzle for the air-powder mixture projects from a grip of the nozzle piece connected to the hand piece,

wherein the front partial length is formed as a first tube having a longitudinal axis and an outer peripheral surface and is provided with plural nozzle openings at least in said outer peripheral surface,

wherein the front partial length first tube of the discharge nozzle for the air-powder mixture has an oval or elliptical cross-section of a size for being inserted into a gum pocket,

wherein the discharge nozzle for the fluid is formed as a second tube having a second longitudinal axis,

wherein the mouth of the discharge nozzle for the fluid is axially displaced backwards with respect to the discharge nozzle for the air-powder-mixture, and

wherein the longitudinal axis of the second tube of the fluid discharge nozzle is displaced laterally toward one side from the longitudinal axis of the first tube of the discharge nozzle for the air-powder-mixture, and

said second tube has an outer peripheral surface that is disposed adjacent the outer peripheral surface of said first tube.

Claim 2 (Previously Presented)

The nozzle piece of claim 1, characterized in that the nozzle openings are arranged in a common radial plane of the tube and are spaced in regular distances or in varying distances along the corresponding circumference of the tube.

Claim 3 (Previously Presented)

The nozzle piece of claim 1, characterized in that the nozzle openings are arranged in at least two different radial planes of the tube and in that the nozzle openings in one radial plane are twisted with respect to the nozzle openings in the other radial plane in the circumferential direction of the tube.

Claim 4 (Withdrawn)

The nozzle piece according to claim 1, characterized in that the nozzle openings are formed as radial passages.

Claim 5 (Withdrawn)

The nozzle piece according to claim 1, characterized in that the nozzle openings are formed as beveled passages, forming an acute angle with the axis of the tube.

Claim 6 (Withdrawn)

The nozzle piece according to claim 1, characterized in that the nozzle openings are formed as tangentially oriented or skewed passages characterized in that the nozzle opening for the air-powder-mixture and the discharge nozzle for the fluid have such dimensions and are disposed such that an eddy or vortex formation is promoted inside the treated (sub-gingival) gum pocket.

Claim 7 (Withdrawn)

The nozzle piece of claim 6, characterized in that the axes of the tangential or skewed passages are oriented in an acute angle to the axial plane of a tube.

Claim 8 (Withdrawn)

The nozzle piece according to claim 5 or 6, characterized in that the outlet cross sections of the beveled passages and/or the tangential or skewed passages are disposed downstream of the corresponding inlet cross sections of the passages.

Claim 9 (Withdrawn)

The nozzle piece of claim 6, characterized in that the axes of the tangential or skewed passages run in a common radial plane of a tube.

Claim 10 (Previously Presented)

The nozzle piece of claim 1, characterized in that the nozzle openings are elongated or slot-shaped.

Claim 11 (Previously Presented)

The nozzle piece according to claim 10, characterized in that a defined longitudinal axis of the slot-shaped nozzle openings is parallel to the main axis of the tube or forms an angle to a lateral area of the tube.

Claim 12 (Previously Presented)

The nozzle piece according to claim 2 or claim 3, characterized in that in one or each of the radial planes of the tube at least three nozzle openings are disposed along the corresponding circumference of the tube.

Claim 13 (Currently Amended)

The nozzle piece according to claim 1, characterized in that the front end of the first tube is either closed or provided with an axial nozzle opening.

Claim 14 (Withdrawn)

The nozzle piece according to claim 13, characterized in that the axial nozzle opening is diffuser-shaped.

Claim 15 (Withdrawn)

The nozzle piece according to claim 13, characterized in that the axial nozzle opening is shaped in the style of a venturi nozzle.

Claim 16 (Withdrawn)

The nozzle piece of claim 13, characterized in that the axial nozzle opening is provided with an outlet cross section which narrows in the axial direction.

Claim 17 (Previously Presented)

The nozzle piece of claim 13, characterized in that the axial nozzle opening is asymmetrically formed in order to deflect the discharged air-powder-mixture jet from the axis of the tube.

Claim 18 (Previously Presented)

The nozzle piece of claim 13, characterized in that a deflection body is provided at the axial nozzle opening, the deflection body directing the discharged air-powder-mixture jet against the treated tooth surface.

Claim 19 (Previously Presented)

The nozzle piece according to claim 18, characterized in that the deflection body is interchangeably mounted on the tube.

Claim 20 (Previously Presented; Withdrawn)

The nozzle piece of claim 1, characterized in that, the fluid discharge nozzle is concentrically arranged to the discharge nozzle for the air-powder-mixture.

Claim 21 (Previously Presented)

The nozzle piece of claim 1, characterized in that the fluid discharge nozzle is provided with a diffuser-shaped outlet cross section.

Claim 22 (Canceled)

Claim 23 (Previously Presented)

The nozzle piece of claim 1, characterized in that the tube-shaped front partial length of the nozzle piece has an arched shape ending at the nozzle openings of the discharge nozzle.

Claim 24 (Canceled)

Claim 25 (Previously Presented)

The nozzle piece of claim 1, characterized in that the tube-shaped front partial length of the nozzle piece is made of a material behaving atraumatically regarding its hardness and surface texture, in particular of polycarbonate or another plastic.

Claim 26 (Previously Presented)

The nozzle piece of claim 1, characterized in that at least one of a scale and a color partitioning for marking the position of the nozzle openings relative to the main axis of the hand piece is provided on the tube-shaped front partial length of the nozzle piece.

Claim 27 (Currently Amended)

The nozzle piece of claim 1, characterized in that the first tube is composed of a single-use product exchangeably mounted on the grip.

Claim 28 (Currently Amended)

The nozzle piece of claim 1, characterized in that the first tube is held by a holding piece which is rotatable relative to the grip.

Claim 29 (Currently Amended)

A nozzle piece for a dental powder jet apparatus adapted for an exchangeable assembly on a hand piece and having a discharge nozzle for a fluid as well as a discharge nozzle for

discharging a mixture of air and a dental powder suitable for cleaning teeth in the area of a gum pocket,

wherein a front partial length at the outlet cross section of the discharge nozzle for the air-powder mixture projects from a grip of the nozzle piece connected to the hand piece,

wherein the front partial length is formed as a tube having an outer peripheral surface and is provided with plural nozzle openings at least in said outer peripheral surface,

wherein the front partial length first tube of the discharge nozzle for the air-powder mixture has an oval or elliptical cross-section of a size for being inserted into a gum pocket, and

wherein the mouth of the discharge nozzle for the fluid is axially displaced backwards with respect to the discharge nozzle for the air-powder-mixture.